An elastic ventilator bearing tube 72 has a mounting 86. There is also as shown in FIG. 2 an intermediate piece 88 connecting the ventilator drive and a counterweight 74 is retained by two elastic disks 76 and 90. These disks in turn being radially displaceable in a stationary housing 92 and axially jointly fixable in their positions by clamping via an intermediate piece 88.--

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IN THE CLAIMS:

Please cancel claims 54 to 81 without prejudice, and please replace by inserting new claims 82 to 109 as follows:

82. A regenerative counterflow heat exchanger (10) for gaseous media, comprising

an air heat exchanger for ventilating rooms in buildings, with a heat exchanger drum (12) receiving in an alternating sequence the flow of the heat-emitting and heat-absorbing gaseous medium, said drum (12) having an open end forming one face side (16) and being rotatably supported in a bearing (18) and having an active surface consisting of a multilayered network (20);

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at least one ventilator (22) produces a flow of feed air and one ventilator (24) a flow of exhaust air;

the heat exchanger drum (12) substantially forms a fixed

outer side of the device and the bearing is a combination of a mechanical bearing (26) and a magnetic bearing (18);

the magnetic bearing (18) is arranged on the face side (16) of the open end (14) of the heat exchanger drum (12); and

the mechanical bearing (26) has a central bearing (28) on which the heat exchanger drum (12) is fixed in a way such that in the mounted condition, its drum axle is substantially capable of executing only tilting movements within a cone, with the tip of the cone being disposed in the central bearing (28).

83. The regenerative counterflow heat exchanger (10) according to claim 82,

wherein the central bearing (28) is connected with a stator (30) in a fixed manner.

84. The regenerative counterflow heat exchanger (10) according to claim 83,

wherein the stator (30) is designed with a stationary ring (32).

85. The regenerative counterflow heat exchanger (10) according to claim 82,

wherein the magnetic bearing (18) is formed only with permanent magnets (34).

86. The regenerative counterflow heat exchanger (10) according to claim 83,

wherein provision is made for a partial magnetic system (34) connected with the rotatable heat exchanger drum (12), the magnetizing device of said partial magnetic system being arranged parallel with the axle of the drum (12).

87. The regenerative counterflow heat exchanger (10) according to claim 86,

wherein provision is made for a partial magnetic system (34), said system being stationary relative to the heat exchanger drum (12) and connected with the stator (30).

88. The regenerative counterflow heat exchanger (10) according to claim 87,

wherein the stationary partial magnetic system (34) has a diameter slightly smaller than the diameter of the partial magnetic system (36) connected with the rotatable heat exchanger drum (12).

89. The regenerative counterflow heat exchanger (10) according to claim 83,

wherein the magnetic bearing (34) is formed with a main magnetic bearing (38) in the region of an upper half (40) of the stator (30), and with an oppositely acting and thus the bearing capacity-reducing second magnetic bearing (42) in the region of a

lower half (44) of the stator (30), said second magnetic bearing (42) complementing the main magnetic bearing (38).

90. The regenerative counterflow heat exchanger (10) according to claim 82,

wherein the magnetic bearing at the same time satisfies a sealing function.

91. The regenerative counterflow heat exchanger (10) according to claim 83,

wherein the central bearing (28) is connected with a cross bar (46) and the latter is connected in a fixed way with two longitudinal bars (48) connected in a fixed way with the stator (30).

92. The regenerative counterflow heat exchanger (10) according to claim 91,

wherein the longitudinal bars (48) are connected with the stator (30) in such a way that any inaccuracy in the angular position on an axis disposed perpendicular to the axis of the drum has no influence on the center point of the central bearing (28).

93. The regenerative counterflow heat exchanger (10) according to claim 91,

wherein the cross bar (46) and the longitudinal bars (48)

are components which are cylindrical.

94. The regenerative counterflow heat exchanger (10) according to claim 93,

wherein the heat exchanger drum (12) has a means (50) for adjusting its axial position, whereby said means (50) is designed in such a way that a loss-causing sealing gap is adjustable between the heat exchanger drum (12) and the stator (30) from the outside.

95. The regenerative counterflow heat exchanger (10) according to claim 82,

wherein the central bearing (28) is axially displaceable.

96. The regenerative counterflow heat exchanger (10) according to claim 91,

wherein provision is made for a compensating device (52) for compensating the thermal change in the length of the longitudinal bars (48), said compensating device (52) being designed in such a way that a change in the outside temperature leads to an axial displacement of the central bearing (28) relative to the cross bar (46).

97. The regenerative counterflow heat exchanger (10) according to claim 82,

wherein the heat exchanger drum (12) has a closed face

side (54) and that it is axially fixable from said face side (54).

98. The regenerative counterflow heat exchanger (10) according to claim 82,

wherein the heat exchanger drum (12) is designed in such a way that it can be pulled off axially without obstruction.

99. The regenerative counterflow heat exchanger (10) according to claim 82,

wherein the heat exchanger drum (12) can be put into rotation by means of a current of air provided with a twist.

100. The regenerative counterflow heat exchanger (10) according to claim 99,

wherein the off-flow of an axial ventilator (24) is directly used as the current of air provided with a twist.

101. The regenerative counterflow heat exchanger (10) according to claim 100,

wherein the axial ventilator (22) blows out parallel with the axis of the drum and that its axis of rotation is arranged spaced from the axis of the drum.

102. The regenerative counterflow heat exchanger (10) according to claim 94,

wherein the ventilator is designed as a feed air ventilator (22).

103. The regenerative counterflow heat exchanger (10) according to claim 82,

wherein the ventilators (22, 24) are at least partly arranged within an inner space of the drum (12) of the heat exchanger.

104. Regenerative counterflow heat exchanger (10) for gaseous media, comprising

an air heat exchanger for ventilating rooms of buildings, comprising a heat exchanger drum (12) receiving in an alternating sequence the flow of the heat-emitting medium and the flow of the heat-absorbing medium, said drum being rotatably supported, turning about a drum axle, and having an active surface comprising a multilayered network (20),

wherein the heat exchanger drum (12) can be put into rotation by means of a flow of air provided with a twist, said flow of air being formed by the flow of exhaust air of an axial ventilator (24) blowing the air out parallel with the axle of the drum, the axis of rotation of said flow of exhaust air being arranged spaced from the axle of the drum.

105. The regenerative counterflow heat exchanger (10) of

claim 104,

wherein at least one ventilator produces a flow of feed air and at least one ventilator produces a flow of exhaust air.

106. The regenerative counterflow heat exchanger (10) of claim 104,

wherein the heat exchanger drum (12) substantially forms an outer fixed limitation of the device.

107. The regenerative counterflow heat exchanger (10) of claim 104,

wherein the flow of air provided with a twist is directly formed by the exhaust flow of the axial ventilator (24).

108. The regenerative counterflow heat exchanger (10) of claim 104,

wherein the axial ventilator (24) comprises a feed air ventilator (22).

109. The regenerative counterflow heat exchanger (10) of claim 105,

wherein the ventilators are at least partly arranged within an inner drum space of the heat exchanger drum (12).